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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,308	MIZUGUCHI ET AL.	
	Examiner	Art Unit	
	HELENE TAYONG	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/17/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 filled 1/17/08 have been fully considered but they are not persuasive. The examiner thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

(1) Applicant's argument: *Nakajima does not disclose "signal determination means for determining a presence or absence of a data signal received from an immediately upstream data transmission apparatus in the ring network based on a comparison between a level of an electrical signal related to the received data signal and a threshold level"*

Examiner's response: Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching signal determination means for determining a presence or absence of a data signal represented by an electrical signal received from an immediately upstream data transmission apparatus in the ring network based on a comparison between a level of an electrical signal related to the received data signal and a threshold level;

However, Fee discloses signal determination means for determining a presence or absence of a data signal received from an immediately upstream data transmission apparatus in the ring network based on a comparison between a level of an electrical signal related to the received data signal and a threshold level (col. 6, lines 60-66, col. 7, lines 7-20 and fig. 7a and 7b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to evaluate the magnitude of the tapped signal to determine an optical fault. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be for reliable fault detection needs to occur at or near intermediate optical switching sites without impeding data communication traffic.

(2) Applicant's argument : *Fee uses an optical signal for determining the absence of a data signal; wherein the "signal determination means" of present invention uses an electrical signal.*

Examiner's response: In (fig. 2 and col. 2, lines 2-17) Fee discloses two electrical data signals that are presented at Site A via inputs 202 and 204. These signals are carried through the network span and recovered at Site B as electrical signal outputs 262 and 264 respectively.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (US 6504823) in view of Fee (US6285475).

(1) with regards to claims 1 and 11;

Nakajima et al in figures 1, 2 and 5 discloses a data transmission apparatus for transmitting a data signal in accordance with a predetermined protocol in one direction within a ring network of a plurality of data transmission apparatuses, the data signal being obtained by modulating an electrical signal of a predetermined frequency, the data transmission apparatus comprising:

data evaluation means for evaluating a data value of the data signal from the immediately upstream data transmission apparatus (Fig. 5, step 13-17, and col. 5, lines 3-19).

processing means for performing a process for a result of evaluation by the data evaluation means in accordance with the predetermined protocol (fig.5, step 19, col.6, lines 64-67 and col.7, lines 1-9); and

evaluation stopping means for causing the data evaluation means to stop outputting a result of evaluation to the processing means if the signal determination means determines that there is no incoming data signal(fig. 5, step 23, col. 7, lines 9-15).

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching signal determination means for determining a presence or absence of a data signal represented by an electrical signal received from an immediately upstream data transmission apparatus in the ring network based on a comparison between a level of an electrical signal related to the received data signal and a threshold level;

However, Fee discloses signal determination means for determining a presence or absence of a data signal received from an immediately upstream data transmission apparatus in the ring network based on a comparison between a level of an electrical signal related to the received data signal and a threshold level (col. 6, lines 60-66 , col. 7, lines 7-20 and fig. 7a and 7b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to evaluate the magnitude of the tapped signal to determine an optical fault. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be for reliable fault detection needs to occur at or near intermediate optical switching sites without impeding data communication traffic.

(2) with regards to claim 2;

Nakajima et al further discloses transmission means for transmitting the data signal to an immediately downstream data transmission apparatus (fig. 2, 27 col. 5, lines 42-45) and fig. 5, step 13); and

transmission stopping means for causing the transmission means to stop transmitting the data signal to the immediately downstream data transmission apparatus if the signal determination means determines that there is no incoming data signal (fig.5, step 23, col. 7, lines 9-15).

(3) with regards to claim 3;

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching signal extraction means for extracting the electrical signal of the predetermined frequency, wherein the signal determination means includes:
threshold level storage means for storing the threshold signal level; and
level comparison means for determining a presence or absence of the data signal by comparing the level of the electrical signal extracted by the signal extraction means against the threshold signal level stored in the threshold level storage means.

However, Fee discloses threshold level storage means for storing the threshold signal level (col.7, lines 63-65); and
level comparison means for determining a presence or absence of the data signal by comparing the level of the electrical signal extracted by the signal extraction means against the threshold signal level stored in the threshold level storage means (col. 8, lines 7-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to evaluate selected bits or fields of the protocol used in the tapped data signal to determine an optical fault. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be to determine reliable data at an inexpensive cost.

(4) with regards to claim 4;

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching read means for reading out, as a digital data value, a signal obtained by modulating the electrical signal of the predetermined frequency; and

difference value detection means for detecting a difference value by subtracting, from the digital data value currently read out by the read means, a digital data value immediately read out previously by the read means,
wherein the signal determination means determines the presence or absence of the data signal based on the difference value detected by the difference value detection means.

However, Fee discloses read means for reading out, as a digital data value, a signal obtained by modulating the electrical signal of the predetermined frequency; and difference value detection means for detecting a difference value by subtracting, from the digital data value currently read out by the read means, a digital data value immediately read out previously by the read means (col. 7, lines 60-67),
wherein the signal determination means determines the presence or absence of the data signal based on the difference value detected by the difference value detection means (col. 8, lines 7-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to reliably detect and locate failures along a fiber line. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be to improve end –to-end path communication.

(5) with regards to claim 5;

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching wherein the signal determination means includes:

difference value storage means for storing a threshold difference value; and

difference comparison means for determining a presence or absence of the data signal by comparing the difference value detected by the difference value detection means against the threshold difference value stored in the difference value storage means.

However, Fee discloses read means for reading out, as a digital data value, a signal obtained by modulating the electrical signal of the predetermined frequency; and difference value detection means for detecting a difference value by subtracting, from the digital data value currently read out by the read means, a digital data value immediately read out previously by the read means (col. 7, lines 60-67), wherein the signal determination means determines the presence or absence of the data signal based on the difference value detected by the difference value detection means (col. 8, lines 7-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to evaluate selected bits or fields of the protocol used in the tapped data signal to determine an optical fault. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be to determine reliable data at an inexpensive cost.

(6) with regards to claim 6;

Nakajima et al further discloses reset means for suspending transmission and reception of the data signal for a predetermined period if the signal determination means determines that there is no incoming data signal (fig. 5, step S23, col.7, lines 9-15).

(7) with regards to claim 8;

Nakajima et al further discloses lock signal outputting means for transmitting a lock signal for establishing clock synchronization to an immediately downstream data transmission apparatus if suspension of transmission and reception of the data signal by the reset means is released (col. 7, lines 9-15).

(8) with regards to claim 9;

Nakajima et al further discloses training signal outputting means for, after the lock signal is transmitted by the lock signal outputting means, transmitting a training signal for adjusting evaluation levels used for the data value evaluation by each data transmission apparatus in the ring network (fig.5, step S17 and 6).

(8) with regards to claim 12;

Nakajima et al in figures 1, 2 and 5 discloses a data transmission apparatus for transmitting a data signal in accordance with a predetermined protocol in one direction within a ring network of a plurality of data transmission apparatuses, the data signal being obtained by modulating an electrical signal of a predetermined frequency, the data transmission apparatus comprising:

signal determination means for determining a presence or absence of a data signal received from an immediately upstream data transmission apparatus in the ring network based on an amplitude of the data signal (fig. 5, step 11, col.5, lines 3-11); data evaluation means for evaluating a data value of the data signal from the immediately upstream data transmission apparatus (fig.5, step 13-17, col. 5, lines 3-19);

processing means for performing a process for a result of evaluation by the data evaluation section in accordance with the predetermined protocol (fig.5, step 19, col.6, lines 64-67 and col.7, lines 1-9);

evaluation stopping means for causing the data evaluation means to stop outputting a result of evaluation to the processing means if the signal determination means determines that there is no incoming data signal(fig.5, step 23, col.7, lines 9-15);

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching read means for reading out, as a digital data value, a signal obtained by modulating the electrical signal of the predetermined frequency; and difference value detection means for detecting a difference value by subtracting, from the digital data value currently read out by the read means, a digital data value immediately read out previously by the read means,

wherein the signal determination means determines the presence or absence of the data signal based on the difference value detected by the difference value detection means.

However, Fee discloses read means for reading out, as a digital data value, a signal obtained by modulating the electrical signal of the predetermined frequency; and difference value detection means for detecting a difference value by subtracting, from the digital data value currently read out by the read means, a digital data value immediately read out previously by the read means (col. 7, lines 60-67),

wherein the signal determination means determines the presence or absence of the data signal based on the difference value detected by the difference value detection means (col. 8, lines 7-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Fee in the apparatus of Nakajima et al in order to evaluate selected bits or fields of the protocol used in the tapped data signal to determine an optical fault. The motivation to utilize the method of Fee in the apparatus of Nakajima et al would be to determine reliable data at an inexpensive cost.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al and Fee (US6285475) as applied to claim 1 above, and further in view of Becker et al (US 7209488).

(1) with regards to claim 10;

Nakajima et al discloses all of the subject matter discussed above, but for specifically teaching wherein the predetermined protocol is MOST (Media Oriented Systems Transport).

However, Becker in the same field of endeavor teaches wherein the predetermined protocol is MOST (Media Oriented Systems Transport)(fig. 1, col. 2, lines 29-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Becker et al in the apparatus and system of Nakajima et al as modified by Fee in order to select data channels to transmit data between different units of a network. The motivation to utilize the method of Becker in

the system of Nakajima et al as modified by Fee would be to increase the quantity of data channels that are available for data transmission in a MOST network.

Allowable Subject Matter

5. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art Nakajima et al (US 6504823) does not disclose wherein, when resetting a setting made in the data transmission apparatus during a boot of the ring network, the reset means suspends transmission and reception of the data signal for a period which is equal to or greater than a result of the multiplication between a number obtained by subtracting one from the number of data transmission apparatuses in the ring network and an amount of time required before a transmission stopping means is able to stop transmission of the data signal after the inputting of the data signal to the signal determination means stops.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

March 31, 2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611